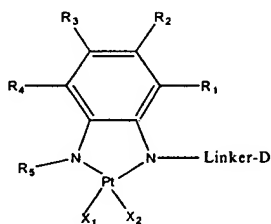


The following Listing of the Claims will replace all prior versions and all prior listings of the claims in the present application:

Listing of The Claims:

1. (Currently Amended): A composition comprising the formula:



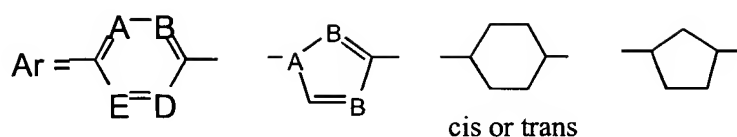
wherein:

R<sub>1</sub>-R<sub>5</sub> may be the same or different and are independently selected from the group consisting of H, alkyl (1 to 10 carbon atoms), benzyl, sulfonate, phosphonate, NO<sub>2</sub>, CF<sub>3</sub>, halogen, O-R<sub>6</sub>, -(C=O)OR<sub>6</sub>, or -OCH<sub>2</sub>(C=O)R<sub>6</sub> and a salt, wherein R<sub>6</sub> is a straight or branched, saturated or unsaturated, substituted or unsubstituted alkyl having 1-10 carbons;

X<sub>1</sub> and X<sub>2</sub> may be the same or different and ~~X~~ at least one of X<sub>1</sub> or X<sub>2</sub> is a leaving group; and

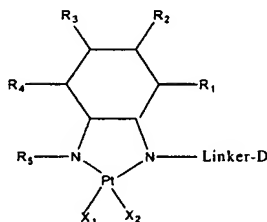
linker is a moiety joining a nitrogen to a detectable marker, D.

2. (Original): The composition of claim 1, wherein said leaving group is selected from the group consisting of NO<sub>3</sub>, halogen CN, OCOR<sub>7</sub>, OCO-Phenyl, OCOCH<sub>2</sub>OC(Phenyl)<sub>3</sub>, O-Trityl and 3,5 - demethyl-phenyl-4-sulfate, wherein R<sub>7</sub> is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate, NO<sub>2</sub>, CF<sub>3</sub>, halogen, O-R<sub>6</sub>, -(C=O)OR<sub>6</sub>, -OCH<sub>2</sub>(C=O)R<sub>6</sub> and a salt.
3. (Original): The composition of claim 1 wherein said linker is selected from the group consisting of: (CH<sub>2</sub>)<sub>n</sub>, (CH<sub>2</sub>)<sub>n</sub>(CH=CH)<sub>m</sub>O(CH=CH)<sub>p</sub>(CH<sub>2</sub>)<sub>q</sub>, CO(CH<sub>2</sub>)<sub>n</sub>(CH=CH)<sub>m</sub>(CH<sub>2</sub>)<sub>p</sub>, COAr(CH<sub>2</sub>)<sub>n</sub>(CH=CH)<sub>m</sub>(CH<sub>2</sub>)<sub>p</sub>, NH<sub>2</sub>(CH<sub>2</sub>)<sub>n</sub>Q, NH<sub>2</sub>((CH<sub>2</sub>)<sub>n</sub>O)<sub>m</sub>(CH<sub>2</sub>)<sub>t</sub>Q, NH<sub>2</sub>(CH<sub>2</sub>)<sub>m</sub>Ar(CH<sub>2</sub>)<sub>n</sub>Q, wherein m, n, p, q and t are integers from 0 to 8, inclusive, and m, n, p, q and t are the same or different, wherein Q is selected from the group consisting of CONH, NHCO, -S-S-, NHCSNH, NHCSO, wherein



and A, B, D, and E are the same or different and are selected from the group consisting of CH, N, O and S.

4. (Original): The composition of claim 1 wherein the detectable marker, D, is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag.
5. (Original): A nucleic acid comprising a composition of claim 1.
6. (Original): The nucleic acid of claim 5 wherein said composition forms a non-covalent adduct with said nucleic acid.
7. (Original): A probe comprising a composition of claim 1.
8. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 1 with said nucleic acid.
9. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 6 and detecting signal from said detectable marker.
10. (Currently Amended): A composition comprising the formula:



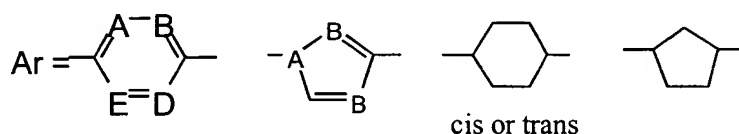
wherein:

$R_1$ -  $R_5$  may be the same or different and are independently selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O-R}_6$ ,  $-(\text{C}=\text{O})\text{OR}_6$ , or  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_6$  and a salt, wherein  $\text{R}_6$  is a straight or branched, saturated or unsaturated, substituted or unsubstituted alkyl having 1-10 carbons;

$\text{X}_1$  and  $\text{X}_2$  may be the same or different and at least one of  $\text{X}_1$  and  $\text{X}_2$  is a leaving group; and

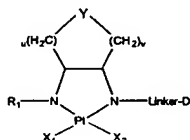
linker is a moiety joining a nitrogen to a detectable marker, D.

11. (Original): The composition of claim 10, wherein said leaving group is selected from the group consisting of  $\text{NO}_3$ , halogen, CN,  $\text{OCOR}_7$ ,  $\text{OCO-Phenyl}$ ,  $\text{OCOCH}_2\text{OC(Phenyl)}_3$ , O-Trityl and 3,5-dimethyl-phenyl-4-sulfate, wherein  $\text{R}_7$  is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O-R}_6$ ,  $-(\text{C}=\text{O})\text{OR}_6$ ,  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_6$  and a salt.
12. (Original): The composition of claim 10 wherein said linker is selected from the group consisting of:  $(\text{CH}_2)_n$ ,  $(\text{CH}_2)_n(\text{CH}=\text{CH})_m\text{O}(\text{CH}=\text{CH})_p(\text{CH}_2)_q$ ,  $\text{CO}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{COAr}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{NH}_2(\text{CH}_2)_n\text{Q}$ ,  $\text{NH}_2((\text{CH}_2)_n\text{O})_m(\text{CH}_2)_t\text{Q}$ ,  $\text{NH}_2(\text{CH}_2)_m\text{Ar}(\text{CH}_2)_n\text{Q}$ , wherein m, n, p, q and t are integers from 0 to 8, inclusive, and m, n, p, q and t are the same or different, wherein Q is selected from the group consisting of CONH, NHCO, -S-S-, NHCSNH, NHCSO, wherein



and A, B, D, and E are the same or different and are selected from the group consisting of CH, N, O and S.

13. (Original): The composition of claim 10 wherein the detectable marker, D, is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag.
14. (Original): A nucleic acid comprising a composition of claim 10.
15. (Original): The nucleic acid of claim 14 wherein said composition forms a non-covalent adduct with said nucleic acid.
16. (Original): A probe comprising a composition of claim 10.
17. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 10 with said nucleic acid.
18. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 15 and detecting signal from said detectable marker.
19. (Currently Amended): A composition comprising the formula:



wherein

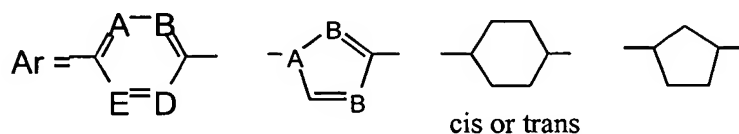
Y is selected from the group consisting of O, S, and C;

R<sub>1</sub> is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate, NO<sub>2</sub>, CF<sub>3</sub>, halogen, O-R<sub>2</sub>, -(C=O)OR<sub>2</sub>, -OCH<sub>2</sub>(C=O)R<sub>2</sub>, and a salt, wherein R<sub>2</sub> is a straight or branched, saturated or unsaturated, substituted or unsubstituted alkyl having 1-10 carbons;

X<sub>1</sub> and X<sub>2</sub> are the same or different and ~~X~~ at least one of X<sub>1</sub> or X<sub>2</sub> is a leaving group;

linker is a moiety joining a nitrogen to a detectable marker, D, and u and v are the same or different and are an integer from 1 to 10.

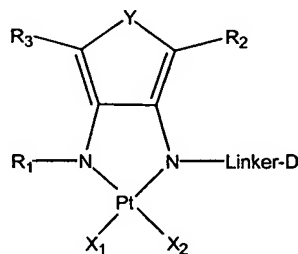
20. (Original): The composition of claim 19, wherein said leaving group is selected from the group consisting of NO<sub>3</sub>, halogen, CN, OCOR<sub>3</sub>, OCO-Phenyl, OCOCH<sub>2</sub>OC(Phenyl)<sub>3</sub>, O-Trityl and 3,5-dimethyl-phenyl-4-sulfate, wherein R<sub>3</sub> is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate, NO<sub>2</sub>, CF<sub>3</sub>, halogen, O-R<sub>2</sub>, -(C=O)OR<sub>2</sub>, or -OCH<sub>2</sub>(C=O)R<sub>2</sub> and a salt.
21. (Original): The composition of claim 19 wherein said linker is selected from the group consisting of: (CH<sub>2</sub>)<sub>n</sub>, (CH<sub>2</sub>)<sub>n</sub>(CH=CH)<sub>m</sub>O(CH=CH)<sub>p</sub>(CH<sub>2</sub>)<sub>q</sub>, CO(CH<sub>2</sub>)<sub>n</sub>(CH=CH)<sub>m</sub>(CH<sub>2</sub>)<sub>p</sub>, COAr(CH<sub>2</sub>)<sub>n</sub>(CH=CH)<sub>m</sub>(CH<sub>2</sub>)<sub>p</sub>, NH<sub>2</sub>(CH<sub>2</sub>)<sub>n</sub>Q, NH<sub>2</sub>((CH<sub>2</sub>)<sub>n</sub>O)<sub>m</sub>(CH<sub>2</sub>)<sub>t</sub>Q, NH<sub>2</sub>(CH<sub>2</sub>)<sub>m</sub>Ar(CH<sub>2</sub>)<sub>n</sub>Q, wherein m, n, p, q and t are integers from 0 to 8, inclusive, and m, n, p, q and t are the same or different, wherein Q is selected from the group consisting of CONH, NHCO, -S-S-, NHCSNH, NHCSO, wherein



and A, B, D, and E are the same or different and are selected from the group consisting of CH, N, O and S.

22. (Original): The composition of claim 19 wherein said detectable marker, D, is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag.
23. (Original): A nucleic acid comprising a composition of claim 19.
24. (Original): The nucleic acid of claim 23 wherein said composition forms a non-covalent adduct with said nucleic acid.

25. (Original): A probe comprising a composition of claim 19.
26. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 19 with said nucleic acid.
27. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 25 and detecting signal from said detectable marker.
28. (Currently Amended): A composition comprising the formula:



wherein:

-Y is selected from the group consisting of O, S, and C;

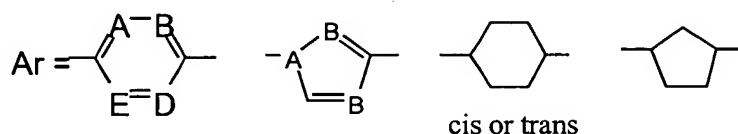
R<sub>1</sub>-R<sub>3</sub> may be the same or different and are independently selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate, NO<sub>2</sub>, CF<sub>3</sub>, halogen, O-R<sub>4</sub>, -(C=O)OR<sub>4</sub>, or -OCH<sub>2</sub>(C=O)R<sub>4</sub> and a salt, wherein R<sub>4</sub> is a straight or branched, saturated or unsaturated, substituted or unsubstituted alkyl having 1-10 carbons;

X<sub>1</sub> and X<sub>2</sub> are the same or different and at least one of X<sub>1</sub> or X<sub>2</sub> is a leaving group; and

linker is a moiety joining a nitrogen to a detectable marker, D.

29. (Currently Amended): The composition of claim 28, wherein said leaving group is selected from the group consisting of ~~Ne<sub>3</sub>~~ NO<sub>3</sub>, halogen, CN, OCOR<sub>5</sub>, OCO-Phenyl, OCOCH<sub>2</sub>OC(Phenyl)<sub>3</sub>, O-Trityl and 3,5-dimethyl-phenyl-4-sulfate wherein R<sub>5</sub> is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate, NO<sub>2</sub>, CF<sub>3</sub>, halogen, O-R<sub>4</sub>, -(C=O)OR<sub>4</sub>, -OCH<sub>2</sub>(C=O)R<sub>4</sub> and a salt.

30. (Original): The composition of claim 28 wherein said linker is selected from the group consisting of:  $(\text{CH}_2)_n$ ,  $(\text{CH}_2)_n(\text{CH}=\text{CH})_m\text{O}(\text{CH}=\text{CH})_p(\text{CH}_2)_q$ ,  $\text{CO}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{COAr}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{NH}_2(\text{CH}_2)_n\text{Q}$ ,  $\text{NH}_2((\text{CH}_2)_n\text{O})_m(\text{CH}_2)_t\text{Q}$ ,  $\text{NH}_2(\text{CH}_2)_m\text{Ar}(\text{CH}_2)_n\text{Q}$ , wherein  $m$ ,  $n$ ,  $p$ ,  $q$  and  $t$  are integers from 0 to 8, inclusive, and  $m$ ,  $n$ ,  $p$ ,  $q$  and  $t$  are the same or different, wherein  $\text{Q}$  is selected from the group consisting of  $\text{CONH}$ ,  $\text{NHCO}$ ,  $-\text{S}-\text{S}-$ ,  $\text{NHCSNH}$ ,  $\text{NHCSO}$ , wherein



and  $A$ ,  $B$ ,  $D$ , and  $E$  are the same or different and are selected from the group consisting of  $\text{CH}$ ,  $\text{N}$ ,  $\text{O}$  and  $\text{S}$ .

31. (Original): The composition of claim 28 wherein said detectable marker,  $D$ , is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag.
32. (Original): A nucleic acid comprising a composition of claim 28.
33. (Original): The nucleic acid of claim 32 wherein said composition forms a non-covalent adduct with said nucleic acid.
34. (Original): A probe comprising a composition of claim 28.
35. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 28 with said nucleic acid.
36. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 34 and detecting signal from said detectable marker.

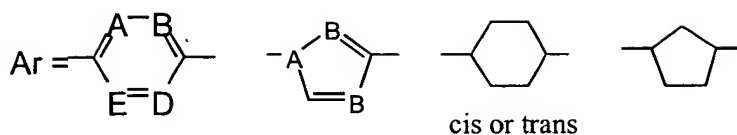
Y is selected from the group consisting of O, S, and C;

$X_1$  and  $X_2$  are the same or different and  $X$  at least one of  $X_1$  or  $X_2$  is a leaving group; and

38. (Currently Amended): The composition of claim 37, wherein said leaving group is selected from the group consisting of ~~NO<sub>3</sub>~~, NO<sub>2</sub>, halogen, CN, OCOR<sub>5</sub>, OCO-Phenyl, OCOCH<sub>2</sub>OC(Phenyl)<sub>3</sub>, O-Trityl and 3,5-dimethyl-phenyl-4-sulfate, wherein R<sub>5</sub> is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate, NO<sub>2</sub>, CF<sub>3</sub>, halogen, O-R<sub>4</sub>, -(C=O)OR<sub>4</sub>, -OCH<sub>2</sub>(C=O)R<sub>4</sub> and a salt.

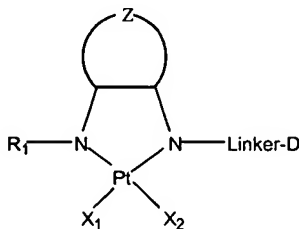
39. (Original): The composition of claim 37 wherein said linker is selected from the group consisting of:  $(\text{CH}_2)_n$ ,  $(\text{CH}_2)_n(\text{CH}=\text{CH})_m\text{O}(\text{CH}=\text{CH})_p(\text{CH}_2)_q$ ,  $\text{CO}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{COAr}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{NH}_2(\text{CH}_2)_n\text{Q}$ ,  $\text{NH}_2((\text{CH}_2)_n\text{O})_m(\text{CH}_2)_t\text{Q}$ ,  $\text{NH}_2(\text{CH}_2)_m\text{Ar}(\text{CH}_2)_n\text{Q}$ , wherein m, n, p, q and t are integers from 0 to 8, inclusive, and m, n, p, q and t are the same or different, wherein Q is selected from the group consisting of CONH, NHCO, -S-S-, NHCSNH, NHCSO, wherein





and A, B, D, and E are the same or different and are selected from the group consisting of CH, N, O and S.

40. (Original): The composition of claim 37 wherein said detectable marker, D, is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag:
41. (Original): A nucleic acid comprising a composition of claim 37.
42. (Original): The nucleic acid of claim 41 wherein said composition forms a non-covalent adduct with said nucleic acid.
43. (Original): A probe comprising a composition of claim 37.
44. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 37 with said nucleic acid.
45. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 43 and detecting signal from said detectable marker.
46. (Currently Amended): A composition comprising the formula



wherein

Z is selected from the group consisting of  $(\text{CH}_2)_n$ , and  $(\text{CH}_2)_n\text{O}(\text{CH}_2)_m$ , wherein m and n are integers from 2 to 8, inclusive;

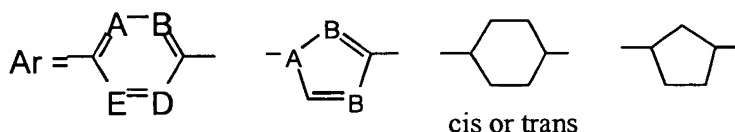
$\text{R}_1$  is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O}-\text{R}_2$ ,  $-(\text{C}=\text{O})\text{OR}_2$ , or  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_2$  and a salt, wherein  $\text{R}_2$  is a straight or branched, saturated or unsaturated, substituted or unsubstituted alkyl having 1-10 carbons;

$\text{X}_1$  and  $\text{X}_2$  are the same or different and X at least one of  $\text{X}_1$  and  $\text{X}_2$  is a leaving group; and

linker is a moiety joining a nitrogen to a detectable marker, D.

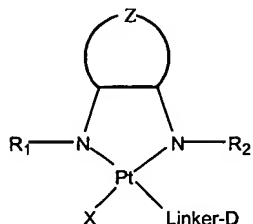
47. (Original): The composition of claim 46, wherein said leaving group is selected from the group consisting of  $\text{NO}_3$ , halogen, CN,  $\text{OCOR}_3$ ,  $\text{OCO-Phenyl}$ ,  $\text{OCOCH}_2\text{OC(Phenyl)}_3$ , O-Trityl and 3,5-dimethyl-phenyl-4-sulfate, wherein  $\text{R}_3$  is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O}-\text{R}_2$ ,  $-(\text{C}=\text{O})\text{OR}_2$ ,  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_2$  and a salt.

48. (Original): The composition of claim 46 wherein said linker is selected from the group consisting of:  $(\text{CH}_2)_n$ ,  $(\text{CH}_2)_n(\text{CH}=\text{CH})_m\text{O}(\text{CH}=\text{CH})_p(\text{CH}_2)_q$ ,  $\text{CO}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{COAr}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{NH}_2(\text{CH}_2)_n\text{Q}$ ,  $\text{NH}_2((\text{CH}_2)_n\text{O})_m(\text{CH}_2)_t\text{Q}$ ,  $\text{NH}_2(\text{CH}_2)_m\text{Ar}(\text{CH}_2)_n\text{Q}$ , wherein m, n, p, q and t are integers from 0 to 8, inclusive, and m, n, p, q and t are the same or different, wherein Q is selected from the group consisting of CONH, NHCO, -S-S-, NHCSNH, NHCSO, wherein



and A, B, D, and E are the same or different and are selected from the group consisting of CH, N, O and S.

49. (Original): The composition of claim 46 wherein said detectable marker, D, is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag.
50. (Original): A nucleic acid comprising a composition of claim 46.
51. (Original): The nucleic acid of claim 50 wherein said composition forms a non-covalent adduct with said nucleic acid.
52. (Original): A probe comprising a composition of claim 46.
53. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 46 with said nucleic acid.
54. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 52 and detecting signal from said detectable marker.
55. (Currently Amended): A composition comprising the formula



wherein

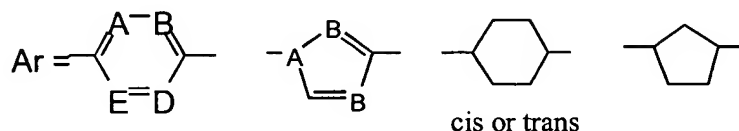
Z is selected from the group consisting of  $(CH_2)_n$ , and  $(CH_2)_nO(CH_2)_m$ , wherein m and n are integers from 2 to 8, inclusive;

$R_1$  and  $R_2$  may be the same or different and are selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $NO_2$ ,  $CF_3$ , halogen,  $O-R_3$ ,  $-(C=O)OR_3$ , or  $-OCH_2(C=O)R_3$  and a salt, wherein  $R_3$  is a straight or branched, saturated or unsaturated, substituted or unsubstituted alkyl having 1-10 carbons;

$X_4$  is a leaving group; and

linker is a moiety joining a detectable marker, D to the platinum ion.

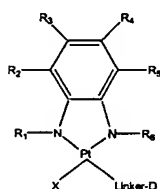
56. (Original): The composition of claim 55, wherein said leaving group is selected from the group consisting of  $\text{NO}_3$ , halogen, CN,  $\text{OCOR}_4$ , OCO-Phenyl,  $\text{OCOCH}_2\text{OC(Phenyl)}_3$ , O-Trityl and 3,5-dimethyl-phenyl-4-sulfate, wherein  $R_4$  is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O-R}_3$ ,  $-(\text{C=O})\text{OR}_3$ ,  $-\text{OCH}_2(\text{C=O})\text{R}_3$  and a salt.
57. (Original): The composition of claim 55 wherein said linker is selected from the group consisting of:  $(\text{CH}_2)_n$ ,  $(\text{CH}_2)_n(\text{CH=CH})_m\text{O}(\text{CH=CH})_p(\text{CH}_2)_q$ ,  $\text{CO}(\text{CH}_2)_n(\text{CH=CH})_m(\text{CH}_2)_p$ ,  $\text{COAr}(\text{CH}_2)_n(\text{CH=CH})_m(\text{CH}_2)_p$ ,  $\text{NH}_2(\text{CH}_2)_n\text{Q}$ ,  $\text{NH}_2((\text{CH}_2)_n\text{O})_m(\text{CH}_2)_t\text{Q}$ ,  $\text{NH}_2(\text{CH}_2)_m\text{Ar}(\text{CH}_2)_n\text{Q}$ , wherein m, n, p, q and t are integers from 0 to 8, inclusive, and m, n, p, q and t are the same or different, wherein Q is selected from the group consisting of CONH, NHCO, -S-S-, NHCSNH, NHCSO, wherein



and A, B, D, and E are the same or different and are selected from the group consisting of CH, N, O and S.

58. (Original): The composition of claim 55 wherein said detectable marker, D, is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag.
59. (Original): A nucleic acid comprising a composition of claim 55.
60. (Original): The nucleic acid of claim 59 wherein said composition forms a non-covalent adduct with said nucleic acid.

61. (Original): A probe comprising a composition of claim 55.
62. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 55 with said nucleic acid.
63. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 61 and detecting signal from said detectable marker.
64. (Original): A composition comprising the formula:



wherein:

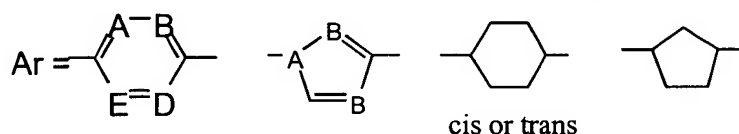
$R_1$ - $R_6$  may be the same or different and are independently selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O-R}_7$ ,  $-(\text{C}=\text{O})\text{OR}_7$ , or  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_7$  and a salt, wherein  $\text{R}_7$  is a straight or branched, saturated or unsaturated, substituted or unsubstituted alkyl having 1-10 carbons;

$\text{X}$  is a leaving group; and

linker is a moiety joining a detectable marker, D to the platinum ion.

65. (Currently Amended): The composition of claim 64, wherein said leaving group is selected from the group consisting of  $\text{N}_3$ ,  $\text{NO}_3$ , halogen, CN,  $\text{OCOR}_8$ ,  $\text{OCO-Phenyl}$ ,  $\text{OCOCH}_2\text{OC(Phenyl)}_3$ , O-Trityl and 3,5-dimethyl-phenyl-4-sulfate, wherein  $\text{R}_8$  is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O-R}_7$ ,  $-(\text{C}=\text{O})\text{OR}_6$ ,  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_7$  and a salt.

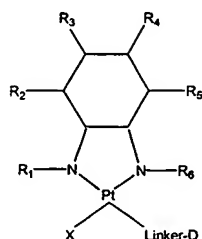
66. (Original): The composition of claim 64 wherein said linker is selected from the group consisting of:  $(\text{CH}_2)_n$ ,  $(\text{CH}_2)_n(\text{CH}=\text{CH})_m\text{O}(\text{CH}=\text{CH})_p(\text{CH}_2)_q$ ,  $\text{CO}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{COAr}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{NH}_2(\text{CH}_2)_n\text{Q}$ ,  $\text{NH}_2((\text{CH}_2)_n\text{O})_m(\text{CH}_2)_t\text{Q}$ ,  $\text{NH}_2(\text{CH}_2)_m\text{Ar}(\text{CH}_2)_n\text{Q}$ , wherein  $m$ ,  $n$ ,  $p$ ,  $q$  and  $t$  are integers from 0 to 8, inclusive, and  $m$ ,  $n$ ,  $p$ ,  $q$  and  $t$  are the same or different, wherein  $\text{Q}$  is selected from the group consisting of  $\text{CONH}$ ,  $\text{NHCO}$ ,  $-\text{S}-\text{S}-$ ,  $\text{NHCSNH}$ ,  $\text{NHCSO}$ , wherein



and  $A$ ,  $B$ ,  $D$ , and  $E$  are the same or different and are selected from the group consisting of  $\text{CH}$ ,  $\text{N}$ ,  $\text{O}$  and  $\text{S}$ .

67. (Original): The composition of claim 64 wherein the detectable marker,  $D$ , is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag.
68. (Original): A nucleic acid comprising a composition of claim 64.
69. (Original): The nucleic acid of claim 68 wherein said composition forms a non-covalent adduct with said nucleic acid.
70. (Original): A probe comprising a composition of claim 64.
71. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 67 with said nucleic acid.
72. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 70 and detecting signal from said detectable marker.

73. (Original): A composition comprising the formula



wherein

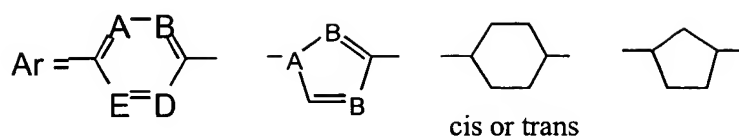
$R_1$ - $R_6$  may be the same or different and are independently selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O-R}_7$ ,  $-(\text{C}=\text{O})\text{OR}_7$ , or  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_7$  and a salt, wherein  $\text{R}_7$  is a straight or branched, saturated or unsaturated, substituted or unsubstituted alkyl having 1-10 carbons;

$\text{X}$  is a leaving group; and

linker is a moiety joining a detectable marker,  $\text{D}$ , to the platinum ion.

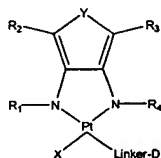
74. (Currently Amended): The composition of claim 73, wherein said leaving group is selected from the group consisting of  $\text{N}_3$ ,  $\text{NO}_3$ , halogen,  $\text{CN}$ ,  $\text{OCOR}_8$ ,  $\text{OCO-Phenyl}$ ,  $\text{OCOCH}_2\text{OC(Phenyl)}_3$ ,  $\text{O-Trityl}$  and 3,5-dimethyl-phenyl-4-sulfate, wherein  $\text{R}_8$  is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O-R}_7$ ,  $-(\text{C}=\text{O})\text{OR}_6$ ,  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_7$  and a salt.

75. (Original): The composition of claim 73 wherein said linker is selected from the group consisting of:  $(\text{CH}_2)_n$ ,  $(\text{CH}_2)_n(\text{CH}=\text{CH})_m\text{O}(\text{CH}=\text{CH})_p(\text{CH}_2)_q$ ,  $\text{CO}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{COAr}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{NH}_2(\text{CH}_2)_n\text{Q}$ ,  $\text{NH}_2((\text{CH}_2)_n\text{O})_m(\text{CH}_2)_t\text{Q}$ ,  $\text{NH}_2(\text{CH}_2)_m\text{Ar}(\text{CH}_2)_n\text{Q}$ , wherein  $m$ ,  $n$ ,  $p$ ,  $q$  and  $t$  are integers from 0 to 8, inclusive, and  $m$ ,  $n$ ,  $p$ ,  $q$  and  $t$  are the same or different, wherein  $\text{Q}$  is selected from the group consisting of  $\text{CONH}$ ,  $\text{NHCO}$ ,  $-\text{S-S}-$ ,  $\text{NHCSNH}$ ,  $\text{NHCSO}$ , wherein



and A, B, D, and E are the same or different and are selected from the group consisting of CH, N, O and S.

76. (Original): The composition of claim 73 wherein the detectable marker, D, is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag.
77. (Original): A nucleic acid comprising a composition of claim 73.
78. (Original): The nucleic acid of claim 77 wherein said composition forms a non-covalent adduct with said nucleic acid.
79. (Original): A probe comprising a composition of claim 73.
80. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 73 with said nucleic acid.
81. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 79 and detecting signal from said detectable marker.
82. (Original): A composition comprising the formula:



wherein

Y is selected from the group consisting of O, S, and C;

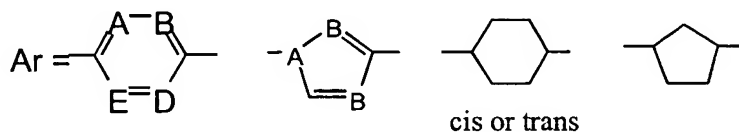


$R_1$ - $R_4$  may be the same or different and are independently selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O-R}_5$ ,  $-(\text{C}=\text{O})\text{OR}_5$ , or  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_5$  and a salt, wherein  $\text{R}_5$  is a straight or branched, saturated or unsaturated, substituted or unsubstituted alkyl having 1-10 carbons;

X is a leaving group; and

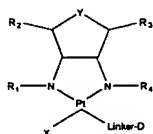
linker is a moiety joining a detectable marker, D, to the platinum ion.

83. (Currently Amended): The composition of claim 82 wherein said leaving group is selected from the group consisting of  $\text{N}_3$ ,  $\text{NO}_2$ , halogen, CN,  $\text{OCOR}_6$ ,  $\text{OCO-Phenyl}$ ,  $\text{OCOCH}_2\text{OC(Phenyl)}_3$ , O-Trityl and 3,5-dimethyl-phenyl-4-sulfate, wherein  $\text{R}_6$  is selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O-R}_5$ ,  $-(\text{C}=\text{O})\text{OR}_5$ ,  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_5$  and a salt.
84. (Original): The composition of claim 82 wherein said linker is selected from the group consisting of:  $(\text{CH}_2)_n$ ,  $(\text{CH}_2)_n(\text{CH}=\text{CH})_m\text{O}(\text{CH}=\text{CH})_p(\text{CH}_2)_q$ ,  $\text{CO}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{COAr}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{NH}_2(\text{CH}_2)_n\text{Q}$ ,  $\text{NH}_2((\text{CH}_2)_n\text{O})_m(\text{CH}_2)_t\text{Q}$ ,  $\text{NH}_2(\text{CH}_2)_m\text{Ar}(\text{CH}_2)_n\text{Q}$ , wherein m, n, p, q and t are integers from 0 to 8, inclusive, and m, n, p, q and t are the same or different, wherein Q is selected from the group consisting of CONH, NHCO, -S-S-, NHCSNH, NHCSO, wherein



and A, B, D, and E are the same or different and are selected from the group consisting of CH, N, O and S.

85. (Original): The composition of claim 82 wherein the detectable marker, D, is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag.
86. (Original): nucleic acid comprising a composition of claim 82.
87. (Original): The nucleic acid of claim 86 wherein said composition forms a non-covalent adduct with said nucleic acid.
88. (Original): A probe comprising a composition of claim 82.
89. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 82 with said nucleic acid.
90. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 88 and detecting signal from said detectable marker.
91. (Original): A composition comprising the formula:



wherein

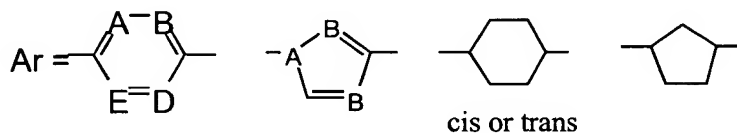
Y is selected from the group consisting of O, S, and C;

R<sub>1</sub>-R<sub>4</sub> may be the same or different and are independently selected from the group consisting of H, methyl, benzyl, sulfonate, phosphonate, NO<sub>2</sub>, CF<sub>3</sub>, halogen, O-R<sub>5</sub>, -(C=O)OR<sub>5</sub>, or -OCH<sub>2</sub>(C=O)R<sub>5</sub> and a salt, wherein R<sub>5</sub> is a straight or branched, saturated or unsaturated, substituted or unsubstituted alkyl having 1-10 carbons;

X is a leaving group; and

linker is a moiety joining a detectable marker, D, to the platinum ion.

92. (Original): The composition of claim 91, wherein said leaving group is selected from the group consisting of  $\text{NO}_3$ , halogen,  $\text{CN}$ ,  $\text{OCOR}_6$ ,  $\text{OCO-Phenyl}$ ,  $\text{OCOCH}_2\text{OC(Phenyl)}_3$ ,  $\text{O-Trityl}$  and  $3,5\text{-dimethyl-phenyl-4-sulfate}$ , wherein  $\text{R}_6$  is selected from the group consisting of  $\text{H}$ , methyl, benzyl, sulfonate, phosphonate,  $\text{NO}_2$ ,  $\text{CF}_3$ , halogen,  $\text{O-R}_5$ ,  $-(\text{C}=\text{O})\text{OR}_5$ ,  $-\text{OCH}_2(\text{C}=\text{O})\text{R}_5$  and a salt.
93. (Original): The composition of claim 91 wherein said linker is selected from the group consisting of:  $(\text{CH}_2)_n$ ,  $(\text{CH}_2)_n(\text{CH}=\text{CH})_m\text{O}(\text{CH}=\text{CH})_p(\text{CH}_2)_q$ ,  $\text{CO}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{COAr}(\text{CH}_2)_n(\text{CH}=\text{CH})_m(\text{CH}_2)_p$ ,  $\text{NH}_2(\text{CH}_2)_n\text{Q}$ ,  $\text{NH}_2((\text{CH}_2)_n\text{O})_m(\text{CH}_2)_t\text{Q}$ ,  $\text{NH}_2(\text{CH}_2)_m\text{Ar}(\text{CH}_2)_n\text{Q}$ , wherein  $m$ ,  $n$ ,  $p$ ,  $q$  and  $t$  are integers from 0 to 8, inclusive, and  $m$ ,  $n$ ,  $p$ ,  $q$  and  $t$  are the same or different, wherein  $\text{Q}$  is selected from the group consisting of  $\text{CONH}$ ,  $\text{NHCO}$ ,  $-\text{S-S}-$ ,  $\text{NHCSNH}$ ,  $\text{NHCSO}$ , wherein



and  $\text{A}$ ,  $\text{B}$ ,  $\text{D}$ , and  $\text{E}$  are the same or different and are selected from the group consisting of  $\text{CH}$ ,  $\text{N}$ ,  $\text{O}$  and  $\text{S}$ .

94. (Original): The composition of claim 91 wherein the detectable marker,  $\text{D}$ , is selected from the group consisting of a fluorophore, a chromophore, a radiolabel, an enzyme and an affinity tag.
95. (Original): A nucleic acid comprising a composition of claim 91.
96. (Original): The nucleic acid of claim 95 wherein said composition forms a non-covalent adduct with said nucleic acid.
97. (Original): A probe comprising a composition of claim 91.

98. (Original): A method of labeling a nucleic acid, said method comprising the step of contacting a composition of claim 91 with said nucleic acid.
99. (Original): A method of probing a nucleic acid array, said method comprising the steps of contacting said array with a probe of claim 97 and detecting signal from said detectable marker.
100. (Original): A method of making a platinum labeling compound that comprises a stabilizing bridge, the method comprising the step of contacting potassium tetrachloroplatinate (II) with an aliphatic diamine labeled with a detectable marker, wherein said contacting results in a cis-platinum dichloride labeling compound.
101. (Original): The method of claim 100 wherein said aliphatic diamine is a cycloaliphatic diamine.
102. (Original): The method of claim 101 wherein said cycloaliphatic diamine is a 1, 2-cycloaliphatic diamine.
103. (Original): The method of claim 101 wherein said cycloaliphatic diamine is a cyclohexyl diamine.
104. (Original): The method of claim 103 wherein said cyclohexyl diamine is a 1,2-cyclohexyl diamine.
105. (Original): The method of claim 100 wherein said contacting is performed in aqueous solution at a pH of about 1.5 to 5.5 and at a temperature of about 65°C.